



03-08-04

Express Mail No. EV 371 773 222 US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Lai et al. Confirmation No.: To be assigned

Serial No.: 10/723,620 Art Unit: To be assigned

Filed: November 25, 2003 Examiner: To be assigned

For: MULTIFUNCTION HYBRID INTELLIGENT UNIVERSAL TRANSFORMER Attorney Docket No.: 60825-0335-US (formerly 9842-0335-999)

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure provisions of 37 C.F.R. §1.56, there is hereby provided certain information which the Examiner may consider material to the examination of the subject U.S. patent application. It is requested that the Examiner make this information of record if it is deemed material to the examination of the application.

- 1. Enclosures accompanying this Information Disclosure Statement are:
 - 1a. ☒ A list of all patents, publications, applications, or other information submitted for consideration by the office.
 - 1b. A legible copy of :
 - ☒ Each foreign patent;
 - ☒ Each publication or that portion which caused it to be listed on the PTO-1449;
 - ☐ For each cited pending U.S. application, the application specification including the claims, and any drawing of the application, or portion of the application which caused it to be listed on the PTO-1449 including any claims directed to that portion;
 - ☐ all other information or portion which caused it to be listed on the PTO-1449.
 - 1c. ☐ An English language copy of search report(s) from a counterpart foreign application or PCT International Search Report.
 - 1d. ☐ Explanations of relevancy (ATTACHMENT 1(d), hereto) or English language abstracts of the non-English language publications.
- 2. ☐ This Information Disclosure Statement is filed under 37 C.F.R. §1.97(b):
 - ☐ Within three months of the filing date of a national application other than a continued prosecution application under §1.53(d);
 - ☐ Within three months of the date of entry of the national stage as set forth in §1.491 in an international application;
 - ☒ Before the mailing of the first Office action on the merits;

- ☐ Before the mailing of a first Office action after the filing of a request for continued examination under §1.114.

3. ☐ This Information Disclosure Statement is filed under 37 C.F.R. §1.97(c) after the period specified in 37 C.F.R. §1.97(b), but before the mailing date of any of a final action under 37 C.F.R. §1.113, a notice of allowance under 37 C.F.R. §1.311 or an action that otherwise closes prosecution in the application.

(Check either Item 3a or 3b)

- 3a. ☐ The Certification Statement in Item 5 below is applicable. Accordingly, no fee is required.
- 3b. ☐ The \$180.00 fee set forth in 37 C.F.R. §1.17(p) in accordance with 37 C.F.R. §1.97(c) is:
☐ enclosed
☐ to be charged to Morgan, Lewis & Bockius LLP Deposit Account No. 50-0310 (order no.).

(Item 3b to be checked if any reference known for more than 3 months)

4. ☐ This Information Disclosure Statement is filed under 37 C.F.R. §1.97(d) after the period specified in 37 C.F.R. §1.97(c), but on or before the date of payment of the issue fee.

The Certification Statement in Item 5 below is applicable.

The \$180.00 fee set forth in 37 C.F.R. §1.17(p) is:

- ☐ enclosed.
☐ to be charged to Morgan, Lewis & Bockius LLP Deposit Account No. 50-0310 (order no.).

5. ☐ Certification Statement (applicable if Item 3a or Item 4 is checked)

(Check either Item 5a or 5b)

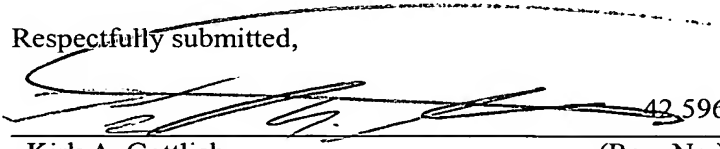
- 5a. ☐ In accordance with 37 C.F.R. §1.97(e)(1), it is certified that each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.
- 5b. ☐ Each item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart application, and the communication was not received by any individual designated in 37 C.F.R. §1.56(c) more than thirty days prior to the filing of this information disclosure statement.
- 5c. ☐ Pursuant to 37 C.F.R. §1.704(d), each item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart application, and the communication was not received by any individual designated in 37 C.F.R. §1.56(c) more than thirty days prior to the filing of this information disclosure statement.
6. ☒ Copies of each cited U.S. patent and each U.S. patent application publication are not enclosed pursuant to the USPTO OG Notice dated 05 August 2003 waiving the requirement under 37 C.F.R. 1.98(a)(2)(i) for U.S. patent applications filed after June 30, 2003.
7. ☐ This application is a continuation application under 37 C.F.R. §1.53(b) or (d).

(Check appropriate Items 6a, 6b and/or 6c)

- 7a. ☐ A Petition to Withdraw from issue under 37 C.F.R. §1.313(b)(5) is concurrently filed herewith.
- 7b. ☐ Copies of publications listed on Form PTO-1449 from prior application Serial No. , filed on , of which this application claims priority under 35 U.S.C. §120, are not being submitted pursuant to 37 C.F.R. §1.98(d).
- 7c. ☐ Copies of the publications listed on Form PTO-1449 were not previously cited in prior application Serial No. , filed on , and are provided herewith.
8. ☐ This is a Supplemental Information Disclosure Statement. (Check Item 7a)
- 8a. ☐ This Supplemental Information Disclosure Statement under 37 C.F.R. §1.97(f) supplements the Information Disclosure Statement filed on . A bona fide attempt was made to comply with 37 C.F.R. §1.98, but inadvertent omissions were made. These omissions have been corrected herein. Accordingly, additional time is requested so that this Supplemental Information Disclosure Statement can be considered as if properly filed on .
9. ☐ In accordance with 37 C.F.R. §1.98, a concise explanation of what is presently understood to be the relevance of each non-English language publication is:
- (Check Item 8a, 8b, or 8c)
- 9a. ☐ satisfied because all non-English language publications were cited on the enclosed English language copy of the PCT International Search Report or the search report from a counterpart foreign application indicating the degree of relevance found by the foreign office.
- 9b. ☐ set forth in the application.
- 9c. ☐ enclosed as an attachment hereto.
10. ☒ The Commissioner is authorized to charge any additional fee required or credit any overpayment for this Information Disclosure Statement and/or Petition to Morgan, Lewis & Bockius LLP Deposit Account No. 50-0310 (order no. 060825-0335-US).
11. ☒ No admission is made that the information cited in this Statement is, or is considered to be, material to patentability nor a representation that a search has been made (other than a search report of a foreign counterpart application or PCT International Search Report if submitted herewith). 37 C.F.R. §§1.97(g) and (h).

Respectfully submitted,

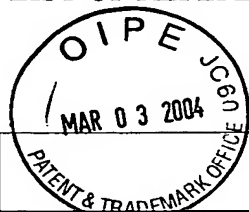
Date: March 3, 2004


Kirk A. Gottlieb
for Gary S. Willams (Reg. No. 31,066)
MORGAN, LEWIS & BOCKIUS LLP
3300 Hillview Avenue
Palo Alto, California 94304-1203
(650) 493-4935

42 596
(Reg. No.)

LIST OF REFERENCES CITED BY APPLICANT

(Use several sheets if necessary)



ATTY DOCKET NO.

60825-0335-US

APPLICATION NO

10/723,620

APPLICANT

Lai et al.

FILING DATE

November 25, 2003

GROUP

To be assigned

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	A01	6,603,672	8/5/03	Deng et al.			
	A02	6,597,590	7/22/03	Ikimi et al.			
	A03	6,594,162	7/15/03	Shinoda et al.			
	A04	6,510,063	1/21/03	Kobayashi et al.			
	A05	6,507,503	1/14/03	Norrga			
	A06	6,490,182	12/3/02	Katoh et al.			
	A07	6,480,403	11/12/02	Bijlenga			
	A08	6,459,596	10/1/02	Corzine			
	A09	6,411,530	6/25/02	Hammond et al.			
	A10	6,404,655	6/11/02	Welches			
	A11	6,353,547	3/5/02	Jang et al.			
	A12	6,310,787	10/30/01	Ito et al.			
	A13	6,307,760	10/23/01	Ikimi			
	A14	6,301,130	10/9/01	Aiello et al.			
	A15	6,236,580	5/22/01	Aiello et al.			
	A16	6,229,722	5/8/01	Ichikawa et al.			
	A17	6,288,915	9/11/01	Stemmier et al.			
	A18	6,226,192	5/1/01	Yamanaka et al.			
	A19	6,175,166	1/16/01	Bapat			
	A20	6,169,676	1/2/01	Dähler			
	A21	6,169,672	1/2/01	Kimura et al.			
	A22	6,154,379	11/28/00	Okita			
	A23	6,151,227	11/21/00	Mizutani et al.			
	A24	6,144,567	11/7/00	Asplund et al.			
	A25	6,118,676	9/12/00	Divan et al.			
	A26	6,108,223	8/22/00	Julian et al.			
	A27	6,058,031	5/2/00	Lyons et al.			
	A28	6,040,990	3/21/00	Courault			
	A29	6,031,738	2/29/00	Lipo et al.			
	A30	6,009,002	12/28/99	Steimer			
	A31	6,005,788	12/21/99	Lipo et al.			
	A32	6,005,362	12/21/99	Enjeti et al.			

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

	A33	5,995,391	11/30/99	Davies et al.			
	A34	5,969,959	10/19/99	Odegard et al.			
	A35	5,949,664	9/7/99	Bernet et al.			
	A36	5,943,229	8/24/99	Sudhoff			
	A37	5,940,285	8/17/99	Carrere et al.			
	A38	5,933,339	8/3/99	Duba et al.			
	A39	5,905,367	5/18/99	Hochgraf			
	A40	5,889,668	3/30/99	Schauder et al.			
	A41	5,889,662	3/30/99	Schettler et al.			
	A42	5,841,645	11/24/98	Sato			
	A43	5,835,371	11/10/98	Kume et al.			
	A44	5,831,842	11/3/98	Ogasawara et al.			
	A45	5,805,437	9/8/98	Grüning			
	A46	5,801,936	9/1/98	Mori et al.			
	A47	5,742,493	4/21/98	Ito et al.			
	A48	5,731,970	3/24/98	Mori et al.			
	A49	5,694,307	12/2/97	Murugan			
	A50	5,644,483	7/1/97	Peng et al.			
	A51	5,642,275	6/24/97	Peng et al.			
	A52	5,621,628	4/15/97	Miyazaki et al.			
	A53	5,587,891	12/24/96	Nakata et al.			
	A54	5,566,061	10/15/96	Uchino			
	A55	5,563,780	10/8/96	Goad			
	A56	5,532,575	7/2/96	Ainsworth et al.			
	A57	5,523,937	6/4/96	Kähkipuro			
	A58	5,467,262	11/14/95	Nakata et al.			
	A59	5,446,643	8/29/95	McMurray			
	A60	5,446,642	8/29/95	McMurray			
	A61	5,361,196	11/1/94	Tanamachi et al.			
	A62	5,138,544	8/11/92	Jessee			
	A63	5,065,303	11/12/91	Nguyen et al.			
	A64	5,337,227	8/9/94	Stacey et al.			
	A65	4,768,141	8/30/88	Hubertus et al.			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	A66	GB 2 294 821	08/05/96	United Kingdom				

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

A67	U.S. Patent Application Publication No. US 2003/0156437 August 21, 2003
A68	U.S. Patent Application Publication No. US 2002/0167825 November 14, 2002
A69	U.S. Patent Application Publication No. US 2001/0026460 October 4, 2001
A70	U.S. Patent Application Publication No. US 2003/0043603 March 6, 2003
A71	U.S. Patent Application Publication No. US 2001/0038541 November 8, 2001
A72	Aeloiza et al., "Next Generation Distribution Transformer: To address Power Quality for Critical Loads", Vol 2: Statistical Summary Report, May 1996
A73	Tolbert et al., "A Multilevel Converter-Based Universal Power Conditioner", PESC'99 June 27-July 1, pp 393-399
A74	Schibili et al., "A Three-Phase Multilevel Converter for High-Power Induction Motors", 1998 IEEE Vol 13, No. 5, September 1998 pgs 978-986
A75	Manjrekar et al., "Hybrid Multilevel Power Conversion System: a competitive solution for high power applications", Department of Electrical and Computer Engineering, 1999
A76	Chiasson et al., "Harmonic Elimination in Multilevel Converters", ECE Dept. The University of Tennessee, pgs 1-6
A77	Tolbert et al., "Multilevel Converters for Large Electric Drives", APEC 1998, February 15-19, 1998, pp. 530-536
A78	Tolbert et al., "Multilevel Converters as a Utility Interface for Renewable Energy Systems"
A79	F. Goodman, "Feasibility Assessment for Intelligent Universal Transformer", Technical Report Final Report December 2002, Chapter 4, pages 4-1- 4-19
A80	EPRI, "Tailored Collaboration Opportunities; DVR with Integrated Transformer (DVRT)", 1998 Electric Power Research Institute Inc.
A81	Jih-Sheng Lai, "Designing the Next Generation Distribution Transformers: New Power Electronic-Based Hybrid and Solid-State Design Approaches", Proceedings of the lasted International Conference, Power and Energy Systems, February 24-26, 2003 pages 262-267
A82	Nergaard et al., " Design Considerations for a 48 V Fuel Cell to Split Single Phase Inverter System with Ultracapacitor Energy Storage", IEEE, 2002, pages 2007-2012
A83	Lai et al., "Multilevel Converters - A New Breed of Power Converters", IEEE, 1996, pages 509-517
A84	Rodriguez et al., "Multilevel Inverters: A Survey of Topologies, Controls, and Applications", IEEE Transactions on Industrial Electronics, Vol. 49, No. 4, August 2002, pages 724-738

EXAMINER**DATE CONSIDERED**

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.